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Research Article

Dieticians' Knowledge of Diabetic Management and Patients' Recovery Rate

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Abstract: Nutritional therapy has become the most reliable support regimen that a diabetic patient can benefit from and it is always preceded and controlled through a nutritional counseling. The impact of nutritional counseling on the recovery rate has been widely studied, but less is done on the effect of counselor's knowledge of diabetic management on the patient's recovery rate. The objective of this article was to establish the effect of counselor's knowledge of diabetic management on patient's recovery rate. A descriptive survey with ex-post facto design was used to assess the effectiveness of the counselor's nutritional knowledge on diabetic management. The sample population consisted of 283 respondents that included 8 nutritional counselors and 275 diabetic patients. Stratified random sampling where the total population was split into two distinct samples (diabetic patients and dieticians) based on their demographics was used. Expert judgment was used to improve on content and construct validity of the items. The obtained data was subjected to analysis using SPSS analytical tools so as to get results. The results showed that there was a statistically significant link between the nutritional counselor's knowledge of diabetic management on patient's recovery rate. The results call for frequent training of nutritional counselors on diabetic management in hospitals.
Keywords: Diabetic management, Diet therapy, Diabetic patients, Nutritional counselors.

INTRODUCTION

Nutritional counselor's knowledge of diabetic management has been implicated for the expected results on patients. Since nutritional counselling is one of the medical therapies which have proved effective in both treatment and healing of patients with diet related conditions such as diabetes, the counselor's knowledge of diabetic management becomes extremely significant [1, 2]. A large percentage of patients die of trauma and other conditions that require proper nutritional counselling in the hands of professionals those who use unconventional way of rendering such services to the patients [3]. This being a medical concern, the interest of this study was to assess the knowledge of nutritional counselor's knowledge of diabetic management in Nakuru provincial general hospital in Kenya. The researcher presupposes that there is a problem in the way counselors handle diabetic cases in a general way. That some nutritional counselors are not well equipped with specifics of diabetic management is worrying. Incase this problem is not addressed; many patients will continue suffering in the hands of those who are supposed to help them.

Health Benefits of nutritional counseling on Diabetic Patients

In the management of diabetes, nutritional counseling has been proved to be the best regimen for successful treatment and management of the disease among the patients [4]. It is well known that depression is a common, treatable issue for many people who have diabetes but most busy clinics cannot provide the level of intensive care these patients need. As a result, the treatment of diabetes becomes an enigma among the patients and the concerned stakeholders [5]. Therefore, nutritional counseling comes in to safe the patient from extremes that come with lack of counseling. Moreover, this proves to be a major hurdle for diabetics in maintaining the strict medication regimen or exercise schedule. With nutritional counseling, patients are guided on the benefits, plans and models of their regimen including exercise and self acceptance. Nutritional counseling fills the gap of patient's self-management needs that require between-visit support [5]. It has been realised that involving patient's relatives, friends and caretakers is the best way to manage diabetic cases.

Diabetic management and treatment of the disease

As expressed in this paper, dietary counselling related to the management of diabetes has been proved to improve patients' nutritional status, clinical status, effectiveness of treatment, quality of life, functioning and survival [4] [6]. Dietary adjustments are an integral part of the management of diabetes. Persons having diabetes often need personal guidance to enrich their knowledge and thus aid suitable selection of foods and intake of balanced diet [2]. The goal of dietary

counselling for diabetes management is helpful in improving the diets in affluent countries with high rates of literacy, easily available information about food compositions and a wide range of food choices [7]. The impact of such guidance requires some evaluation in a variety of settings because compliance to various dietary suggestions may differ according to type of recipients and thus the effects [8]. This being the goal of this study, it could help in determining the areas needing focus during dietary counselling in particular kind of population.

Theoretical Framework

Considering that many theories have been developed to explain human uptake of health services, this study adopted Irwin Rosenstock's health belief model. This is a combination of a heath behavior model and a psychological model. The Health Belief Model has been applied to a broad range of health behaviors and subject populations [9]. In this study much attention was on the health-promoting part of the model which includes; treatment therapies like diet, Sick role behaviors, which refer to compliance with recommended dietary treatment for diabetics, usually following professional diagnosis of illness [9]. It was then tied to the main objective of finding out whether the frequency of nutritional counseling has effect on the adherence to the dietary therapies among diabetic patients under study.

METHODOLOGY

In this study, descriptive survey with ex-post facto design was used. The study location was the Nakuru Provincial General Hospital in Nakuru County. The target population for this study consisted of all known diabetic patients and nutritionists in rift valley general hospital. The data collected from these respondents was guided by the structured questions in the questionnaire and included their views concerning nutritional counselling for diabetic patients. Two samples were considered for the study. The first sample constituted of diabetic patients and the other one constituted the dieticians. The sample size was determined using a guide for determining the required size of a randomly chosen sample from a given finite population of N cases as constructed by Kathuri and Pals in 1993 [10] . In this formula, the sample proportion P was within plus or minus 0.05 of the population proportion p with a 95% level of confidence. To maintain confidentiality, the questionnaires did not require respondents' names and was also discussed prior to the filling of the questionnaires with the respondents so that they did not hold essential information. The questionnaires were only issued to those participants who were willing to participate after the discussion with the researcher. The objective of this paper sought to find out whether nutritional counsellors' knowledge of diabetic management affect diabetic patients' recovery rate in N.P.H. and was analyzed using frequencies and percentages.

RESULTS AND DISCUSSION

In order to make conclusions on nutritional counselors' knowledge of diabetic management and its benefits to diabetic patients, it was important to make some assessment of some factors from both the patients and the counselors. The first interest was to establish whether diabetic patients adhere to recommended diets. It was important to assess the challenges encountered by patients in implementing/adhering to the recommended diet. Another interest was to find out whether the patient has ever engaged the family in nutritional counselling and the reasons if any for not involving their relatives. Assessing the education level of the diabetic patients was also significant in order to establish the dependency level on counselors. The education level of counselors was also important to establish their knowledge of diabetic management in training or through experience.

The following results were obtained from the respondents. Of importance in this specific part was the nutritional counselor's knowledge of diabetic management. The following results were obtained. Since counselors' knowledge of diabetic management is implicated in the patient's adherence to dietary therapy, there was an interest of whether patients were able to adhere to therapy and treatment given to them during nutritional counselling. Fig. 1 summarizes the results of the patients' responses on whether they were able to adhere to the recommended diet.

Fig. 1 shows that majority (76%) of the patients were able to adhere to the recommended diet while 24% were not able to adhere due to a number of factors. The factors posing a challenge in the implementation/adherence of the recommended diet are cited in Table 1.

Table 1 shows that 36.9% of the reasons cited as challenges to therapy adherence was lack of proper counseling on diabetic management. This challenge is directly linked to counselor's knowledge of diabetic management and is an interest for this study. Another challenge was long distance to the market (16.7%). Since most patients are rural dwellers and that some of the recommended diet (especially fruits) cannot be preserved for a long time with the prevailing technology, the problem of distance compels most patients to embrace some locally available alternatives to supplement the therapy. The challenge of unavailability of some diets in the market; at least throughout the year, was also cited by 13.1% of the respondents. This is closely connected with the problem of lack of money to afford some diets such as fruits and vegetables as cited by 16.7% of the respondents. Some of the patients (11.6%) claimed to suffer from family related problems such as neglect, lack of support and conflicts. Table 2 summarizes the patients' responses on

whether they involved their family in dietary counselling.

Engaging family members in dietary counseling

The following table summarizes the involvement of families in nutritional counselling.

Of the respondents interviewed, 83.5% of them claimed that they involve their families in dietary counselling while about 16.5% claimed that they have never involved their families. A number of reasons were cited for not involving the families in dietary counselling as summarized in Table 3.

As shown in Table 3, majority of the patients do not involve their families in their dietary counselling because of their unsupportive nature of their relatives (55.9%), intention of not stressing their relatives (23.5%), situation where their relatives are not interested (11.8%) and when their relatives lack money that could assist the patient (8.8%). These factors need to be addressed to in order to reduce family related stress factors than hamper the healing/treatment of the diabetic patients. Stigma was noted to affect a small proportion of respondents (5.1%) and thereby affecting their adherence to the recommended therapy.

The above results show that patients have only their nutritional counselors to rely on and therefore, nutritional counselors' knowledge of diabetic management is very important if patients are to be helped.

Education Level of the diabetic patients

It was important to asses the education level of diabetic patients because this is significant in determining the need to have informed and knowledgeable counselors who can guide them and save their lives.

From table 4, it is evident that majority of diabetic patients had low level of education with 38.6% possessing primary education followed by 25.2% with secondary and 18.8% with college education. The results indicate that 17.3% of the respondents had no formal education. The lack of adequate education may have an indirect influence on uptake of certain recommendations related to diet/therapy relevant to diabetic condition. The results further show that diabetic condition affects people of all levels of education. This means that these patients require counselors who are knowledgeable in matters related to diabetic management for them to benefit fully from the health services they receive.

Counselors' education level

It was also important to access counselor's education level because patients are assumed to have low level of education on the area of diabetic management for the model to work successfully. Secondly, knowledge of diabetic management is assumed to be transmitted from the counselor to the patients. The following results were obtained:

On the part of dieticians, low education did not pose as a challenge since majority (66.7%) had diploma level of training with 33.3% of them possessing graduate training on nutrition as shown in Table 4 above. This implies that the dieticians are generally qualified and capable of offering their dietary/nutrition services to patients with less possible challenges.

Nutritional Counselors knowledge of diabetic management

The hypothesis for this study can state that "There is no statistically significant influence of nutritional counsellors' knowledge on diabetic management and rate of recovery among patients in Nakuru Provincial Hospital (N.P.H)". Most dieticians (nutritional counselors) seemed to have adequate level of training as shown in Table 6.

Additionally, the dietician's area of specialization seemed to be more on nutrition since 87.5% of the respondents indicated their area of specialization as nutrition. Only 12.5% indicated palliative care as their area of specialization. The study also indicated that dieticians are provided by the institution a variety of refresher courses to improve their knowledge and effectiveness in provision of their crucial services.

As indicated in Table 6, 87.5% of the dieticians benefited with refresher courses relevant to their nutritional counselling work with only 12.5% of the nutritionists arguing that they have never been provided with a refresher course. The most important refresher training reported by the dieticians was nutrition, palliative care, and integrated management of malnutrition, HIV/AIDS, Infant and Young Child Feeding (IYCF) and Diabetic management. It can further be noted that the institution highly recognize their nutritional knowledge as majority of them indicated that diabetics in the institution are counseled about good diet by nutritionists/dieticians and not nurses, doctors or other medical workers.

It therefore implies that the institution's dieticians/nutritionists are highly qualified, well trained and with up-to-date wealth of nutritional information that can assist their clients in proper management of their diabetic conditions. The dieticians were also noted to have a broad wealth of knowledge that was employed to counsel diabetic patients on different areas notably on proper diet, exercise and foot care.

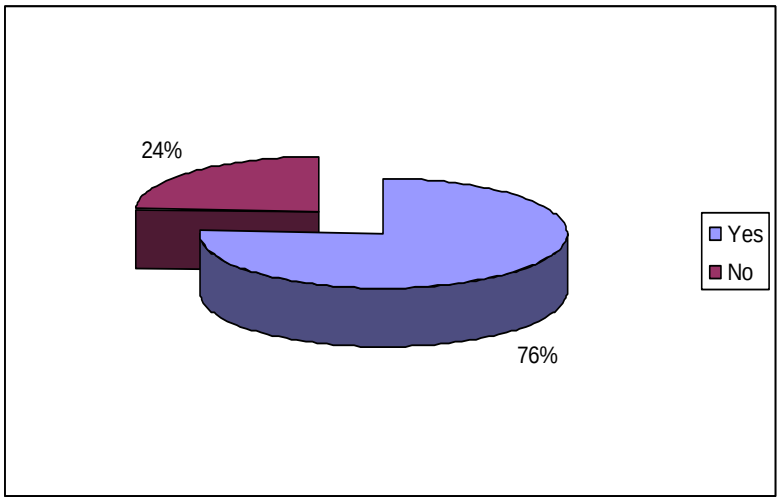

Fig. 1: Whether the patients were able to adhere to the recommended diet

Table 11: Challenges encountered by patients in implementing/adhering to the recommended diet

Challenges	Frequency	Percent
Lack of proper counseling on diabetic management	166	36.9%
Long distance to the market	75	16.7%
The diets are not available in the market	59	13.1%
Lack of money	75	16.7%
Lack of support from the family	52	11.6%
Stigma	23	5.1%
Total	449	100.0%

Table 22: Involvement of patients families in nutritional counselling

Patient's families involvement	Frequency	Percent
Involved	230	83.5%
Not involved	45	16.5%
Total	275	100.0%

Table 3: Reasons cited for not involving the family in dietary counselling

Reasons	Frequency	Percent
My relatives are not interested	5	11.8%
My relatives are not supportive	25	55.9%
I don't like stressing them	11	23.5%
My relatives lack money that could assist me	4	8.8%
Total	45	100.0%

Table 4: Education level of respondent

	Frequency	Percent
No formal education	48	17.3%
Primary	106	38.6%
Secondary	69	25.2%
College	52	18.8%
Total	275	100.0%

Table 5: nutritional counselors' Level of training

Level of training	Frequency	Percent
Diploma	6	66.7%
Graduate	2	33.3%
Total	8	100.0%

Table 6: Level of training and area of specialization of the dieticians

	Description	Frequency	Percent
Level of training	Diploma	6	66.7%
	Graduate	2	33.3%
	Total	8	100.0%
Area of specialization	Nutrition	7	87.5%
	Palliative care	1	12.5%
	Total	8	100.0%
Attendance of refresher training	Yes	7	87.5%
	No	1	12.5%
	Total	8	100.0%

CONCLUSION

From this study, it was evident that nutritional counselling affects the rate of healing among diabetic patients. Diabetic patients who do not access nutritional counselling services are likely to fail to adhere to therapies and treatment. The researcher sought to find out whether diabetic patients adhere to recommended diets. It was clear that there are diabetic patients 24% who do not adhere to recommended diets. In order to ensure this number is taken care of, nutritional counselors need to be knowledgeable to a level that they can help them.

The lack of proper counseling on diabetic management was cited as a challenge encountered by patients in implementing and adhering to the recommended diet. Regardless of this challenge, many patients 17% quoted that they do not engage their relatives in their regimen. This number cannot be ignored and therefore must be reduced by ensuring all nutritional counselors are well equipped with diabetic knowledge. Moreover, when the education level of the patients was assessed, it was found out that many patients' education do not enable them to be self reliant on information and so, they depend on their nutritional counselors for knowledge of diabetic management. Assessing the education level of the diabetic patients was significant in order to establish the dependency level on counselors.

Most dieticians (nutritional counselors) have adequate level of training relevant to their area of specialization. They are also occasionally provided with a variety of refresher courses (nutrition, palliative care, integrated management of malnutrition, HIV/Aids, Infant and Young Child Feeding (IYCF) and Diabetic management) to improve their knowledge and effectiveness in provision of their crucial services. The study also found that although most nutritional counselors are well education, they are not well re-serviced to ensure they have current knowledge on diabetic management. Therefore, the education level of counselors was also important to establish their knowledge of diabetic management in training or through experience.

Nutritional counselling services are generally available to diabetic patients and consequently most patients had received diet counselling from different sources. However, the means of disseminating the services by nutritional counselors, poverty and cultural interference negatively affects adherence and effectiveness of counselling which eventually impairs the rate of healing among diabetic patients.

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